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PATENT APPLICATION

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IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Kemal GULER et al.

Confirmation No.: 9251

Application No.: 09/902,928

Examiner: Ojo O. OYEBISI

Filing Date: July 10, 2001

Group Art Unit: 3692

Title: METHOD FOR SETTING AN OPTIMAL RESERVE PRICE FOR AN AUCTION

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Commissioner For Patents  
PO Box 1450  
Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on 8/21/2007.

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) \$500.00.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

☐ (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d)) for the total number of months checked below:

☐ 1st Month  
\$120

☐ 2nd Month  
\$450

☐ 3rd Month  
\$1020

☐ 4th Month  
\$1590

☐ The extension fee has already been filed in this application.

☒ (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Patent Application

Appellant:	Kemel et al.	Confirmation No.:	9251
Application No.:	09/902,928	Group Art Unit:	3692
Filed:	July 10, 2001	Examiner:	Oyebisi, O.

For: Method and System for Setting an Optimal Reserve Price for an Auction

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APPEAL BRIEF

## Table of Contents

	<u>Page</u>
Real Party in Interest	1
Related Appeals and Interferences	2
Status of Claims	3
Status of Amendments	4
Summary of Claimed Subject Matter	5
Grounds of Rejection to Be Reviewed on Appeal	7
Argument	8
Conclusion	13
Appendix – Clean Copy of Claims on Appeal	14
Appendix – Evidence Appendix	22
Appendix – Related Proceedings Appendix	23

I. Real Party in Interest

The assignee of the present application is Hewlett-Packard Development Company,  
L.P.

## II. Related Appeals and Interferences

There are no related appeals or interferences known to the Appellant.

### III. Status of Claims

Claims 2-8, 10-16 and 18-27 have been rejected. Claims 1, 9 and 17 have been canceled. This Appeal involves Claims 2-8, 10-16 and 18-27.

#### IV. Status of Amendments

All proposed amendments have been entered. An amendment subsequent to the Final Action has not been filed.

## V. Summary of Claimed Subject Matter

Independent Claims 6, 14 and 22 of the present application pertains to a method and apparatus for routing communications to a storage area network.

At least one embodiment of Claim 6 “A method for determining a reserve price for a market”, is depicted in Figures 1-14. In one embodiment (as shown at least at Figure 2 and at least page 19 lines 12-15) one embodiment selects characteristics of the market. At least at 52 of Figure 5 and at least page 20 lines 18-20, one embodiment further selects a relevant bidding model.

At least at 60-62 of Figure 6 and at least at page 20, lines 26–28, one embodiment estimates a structure of the market, the estimating comprises expressing unobservable variables in terms of observable bids, wherein the unobservable variables are expressed in terms of observable bids by inverting the bid model. At least at 72 of Figure 7 and at least at page 22, lines 20–27, one embodiment predicts a bidding behavior.

At least at 85 of Figure 8 and at least at page 23, lines 24-27, one embodiment predicts a first outcome of the market; and at 90 of Figure 9 and page 24 lines 11-24, one embodiment evaluates the first outcome of the market.

In Claim 14, “A computer system comprising: a bus 1001; a memory 1010 interconnected with the bus; and a processor 1050 interconnected with the bus, wherein the processor executes a method for determining a reserve price for a market” is described and shown including at least Figure 10.

In one embodiment (as shown at least at Figure 2 and at least page 19 lines 12-15) one embodiment selects characteristics of the market. At least at 52 of Figure 5 and at least page 20 lines 18-20, one embodiment further selects a relevant bidding model. At least at 60-62 of Figure 6 and at least at page 20, lines 26–28, one embodiment estimates a structure of the market, the estimating comprises expressing unobservable variables in terms of observable bids, wherein the unobservable variables are expressed in terms of observable bids by inverting the bid model.



At least at 72 of Figure 7 and at least at page 22, lines 20–27, one embodiment predicts a bidding behavior. At least at 85 of Figure 8 and at least at page 23, lines 24-27, one embodiment predicts a first outcome of the market; and at 90 of Figure 9 and page 24 lines 11-24, one embodiment evaluates the first outcome of the market.

In Claim 22 and at Figure 1, “A computer readable medium for causing a computer system to execute a method for determining a reserve price for a market” is recited. At least Figure 2 and at least page 19 lines 12-15, one embodiment selecting characteristics of the market. At least at 52 of Figure 5 and at least page 20 lines 18-20, one embodiment further selects a relevant bidding model.

At least at 60-62 of Figure 6 and at least at page 20, lines 26–28, one embodiment estimates a structure of the market, the estimating comprises expressing unobservable variables in terms of observable bids, wherein the unobservable variables are expressed in terms of observable bids by inverting the bid model.

At least at 72 of Figure 7 and at least at page 22, lines 20–27, one embodiment predicts a bidding behavior. At least at 85 of Figure 8 and at least at page 23, lines 24-27, one embodiment predicts a first outcome of the market; and at 90 of Figure 9 and page 24 lines 11-24, one embodiment evaluates the first outcome of the market.

## VI. Grounds of Rejection to Be Reviewed on Appeal

1. Claims 3-8, 11-16 and 19-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Seymour et al., U.S. Patent No. 6,871,190 (hereinafter Seymour).
2. Claims 2, 10 and 18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Seymour in view of Rackson et al., U.S. Patent No. 6,415,270 (hereinafter Rackson).

## VII. Argument

### 1. Whether Claims 3-8, 11-16 and 19-27 are unpatentable in view of Seymour under 35 U.S.C. § 103(a).

#### A. Claim Features are not Met by the Cited References

Appellants respectfully point out that Claim 6 recites an embodiment of the invention (emphasis added):

A method for determining a reserve price for a market, said method comprising:

- selecting characteristics of said market;
- selecting a relevant bidding model;
- estimating a structure of said market, said estimating comprises expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model;
- predicting a bidding behavior;
- predicting a first outcome of said market; and
- evaluating said first outcome of said market.

Appellants respectfully note that independent Claims 14 and 22 include similar limitations to those recited above in independent Claim 6.

Appellants respectfully assert that Seymour does not teach the above recited combination of elements as recited in independent Claims 6, 14 and 22. For instance, Seymour fails to teach "said estimating comprises expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model" as claimed.

In particular, Appellants respectfully submit that Seymour is silent as to inverting a bid model as claimed. As such, Appellants respectfully submit that independent Claims 6, 14

and 22 overcome the rejection under 35 U.S.C. §103(a), and are thus in condition for allowance.

Further, Appellants note that on page 3 lines 5-10, the present Office Action also provides that “Sey does not explicitly disclose wherein said estimating comprises expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model.”

However, Appellants respectfully disagree with the continuing lines 11-17, the Official Notice.

Specifically, Appellants respectfully submit that the Examiner has provided inadequate support of a finding of Official Notice. Examiner takes Official Notice that to express unobservable variables in terms of observable variables; to create a sample for the data, to use the sample to generate a statistical distribution of the sample data; to make estimates or assumptions about the market; and to report upon or generate an output of the results is old and well known. Appellants respectfully submit that a claimed embodiment such as estimating a structure of said market, said estimating comprises expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model is not considered to be common knowledge or well-known in the art, as asserted by the Examiner.

The “assessment of basic knowledge and common sense that is not based on any evidence in the record lacks substantial evidence support” (MPEP 2144.03(A); *In re Zurko*, 258 F.3d 1379, 1385, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001)). In particular, “[i]f such notice is taken, the basis for such reasoning must be set forth explicitly. The examiner must provide specific factual findings predicated on sound technical and scientific reasoning to support his or her conclusion of common knowledge” (MPEP 2144.03(B); see *In re Soli*, 317 F.2d 941, 946, 37 USPQ 797, 801 (CCPA 1963); see also *In re Chevenard*, 139 F.2d 711, 713, 60 USPQ 239, 241 (CCPA 1943)).

Appellants respectfully submit that the basis for Official Notice as relied on by the Examiner is not set forth explicitly, as required. Appellants respectfully submit that the

Examiner has not stated why the teachings of estimating a structure of said market, said estimating comprises expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model are common knowledge. Furthermore, the Examiner has not stated how such teachings relate to the claims. Appellants respectfully assert that the Examiner has taken Official Notice without providing a clear and unmistakable technical line of reasoning, as required.

Appellants respectfully assert that the use of estimating a structure of said market, said estimating comprises expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model is not common knowledge. "It is never appropriate to rely solely on common knowledge in the art without evidentiary support in the record as the principal evidence upon which a rejection is based" (emphasis added; MPEP 2144.03(E); See *In re Zurko*, 258 F.3d 1379, 1386, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001); *In re Ahlert*, 424 F.2d 1088, 1092, 165 USPQ 418, 421 (CCPA 1970)).

Accordingly, Appellants respectfully that the Examiner provide adequate evidence in the form of an affidavit in support of the finding of Official Notice, in accordance with 37 CFR § 1.104(d)(2).

For these reasons, Appellants respectfully submit that Claims 6, 14 and 22 are not taught or rendered obvious in view of Seymour under 35 U.S.C. § 103(a) and respectfully requests reversal of the rejection.

With respect to Claims 3-5, 7-8, 11-13, 15-16, 19-21 and 23-27, Appellants respectfully point out that Claims 3-5, 7-8, 11-13, 15-16, 19-21 and 23-27 depend from allowable independent Claims 6, 14 and 22 and recite further embodiments of the present claimed invention. Therefore, Appellants respectfully submit that Claims 3-5, 7-8, 11-13, 15-16, 19-21 and 23-27 overcome the rejection under 35 U.S.C. §103(a), and that these claims are thus in a condition for allowance as being dependent on allowable base claims.

In summary, Appellants respectfully submit that the Examiner's rejections of the Claims are improper as the rejection of Claims 2-8, 10-16 and 18-27 does not satisfy the requirements of a *prima facie* case of obviousness as claimed features are not met by the cited reference. Accordingly, Appellants respectfully submit that the rejection of Claims 2-8, 10-16 and 18-27 under 35 U.S.C. §103(a) is improper and should be reversed.

#### Response to Arguments

On page 10 lines 14-16 of the Final Office Action dated 5/21/2007, the statement is made that the "Applicant is charged with rebutting the well known statement in the next reply after the office action in which the well known statement was made. Thus since the applicant has failed to rebut the well known statements made by the examiner in the two previous office actions received by the applicant, the lack of rebuttal on the part of the applicant constitutes consent that the well know statement is construed to be true."

Appellants respectfully point out that in the Office Action response to the Office Action dated 3/6/06, on page 17 lines 13-21, the Appellants clearly did make a rebut and clearly did request support for the statement from the Examiner.

Thus, Appellants respectfully submit that there was no consent or construe that the well known statement was true. In fact, Appellants respectfully point out that the validity of the well known statement was questioned immediately.

Further, Appellants continue to disagree with the unsupported non-substantiated well known statement for the reasons provided on 3/6/06, provided herein and provided in a number of Office Action responses inbetween.

#### 2. Whether Claims 2, 10 and 18 are unpatentable over Seymour in view of Rackson under 35 U.S.C. § 103(a).

The Examiner is respectfully directed to independent Claim 6 (shown above). Independent Claims 14 and 22 contain similar limitations. Amended Claim 2 depends from allowable independent Claim 6, and recites further limitations to the present invention. Amended Claim 10 depends from allowable independent Claim 14, and recites further

limitations to the present invention. Amended Claim 18 depends from allowable independent Claim 22, and recites further limitations to the present invention.

Appellants respectfully contend that Seymour does not teach or suggest the above recited combination of elements as recited in independent Claims 6, 14 and 22. For example, Seymour fails to teach "said estimating comprises expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model" as claimed. In particular, Appellants respectfully submit that Seymour is silent as to inverting a bid model as claimed.

Moreover, Appellants respectfully contend that the combination of Seymour in view of Rackson fails to teach or suggest this claim limitation because Rackson does not overcome the shortcomings of Seymour. That is, Appellants respectfully contend that Rackson does not teach or suggest "said estimating comprises expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model" as recited in amended Claims 6, 14 and 22. Specifically, Appellants respectfully submit that Rackson is silent as to inverting a bid model as claimed. As such, Appellants respectfully submit that independent Claims 6, 14 and 22 overcome the rejection under 35 U.S.C. §103(a), and are thus in condition for allowance.

With respect to Claims 2, 10 and 18, Appellants respectfully point out that Claims 2, 10 and 18 depend from allowable independent Claims 6, 14 and 22, respectively, and recite further embodiments of the present claimed invention. Therefore, Appellants respectfully submit that Claims 2, 10 and 18 overcome the rejection under 35 U.S.C. §103(a), and that these claims are thus in a condition for allowance as being dependent on allowable base claims.

### Conclusion

Appellants believe that pending Claims 2-8, 10-16 and 18-27 are directed toward patentable subject matter. In particular, Appellants believe that pending Claims 2-8, 10-16 and 18-27 are not anticipated by Seymour either alone or in view of Rackson.

As such, Appellants submit that Claims 2-8, 10-16 and 18-27 are patentable and respectfully request that the rejection under 35 U.S.C. § 103(a) of Claims 2-8, 10-16 and 18-27 be reversed. The Appellant wishes to encourage the Examiner or a member of the Board of Patent Appeals to telephone the Appellant's undersigned representative if it is felt that a telephone conference could expedite prosecution.

Respectfully submitted,  
Wagner Blecher LLP

Dated: \_\_\_\_\_

10/22/07



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## VIII. Appendix - Clean Copy of Claims on Appeal

2. The method as recited in Claim 6, wherein said selecting characteristics further comprises:

- receiving a first user input, wherein said first user input comprises information identifying an item to be auctioned;
- accessing a database;
- retrieving from said database historical bids data;
- retrieving from said database auction characteristics data, wherein said auction characteristics comprise information relating to historical auctions of similar items;
- outputting said bids data; and
- outputting said auction characteristics data.

3. The method as recited in Claim 6, wherein said selecting a relevant bidding model further comprises:

- receiving said auction characteristics data;
- accessing a database;
- retrieving from said database a relevant bidding model, wherein said bidding model is selected based on a corresponding relevance of said auction characteristics data; and
- outputting said relevant bidding model.

4. The method as recited in Claim 6, wherein said estimating further comprises:

- receiving said relevant bidding model;
- receiving bids data;
- transforming said bids data to a sample of inverted bids, wherein said bids data are transformed by inverting said bid model;
- estimating an estimated latent structure of said market, wherein said sample of inverted bids receives application of statistical density estimation techniques to obtain said estimated structure; and
- outputting said estimated structure.

5. The method as recited in Claim 6, wherein said bidding model has embedded an unknown structure, and wherein said predicting a bidding behavior further comprises:

receiving said estimated structure;  
receiving said relevant bidding model;  
substituting said estimated structure for said unknown structure; and  
outputting a prediction of bidding behavior.

6. A method for determining a reserve price for a market, said method comprising:  
selecting characteristics of said market;  
selecting a relevant bidding model;  
estimating a structure of said market, said estimating comprises expressing  
unobservable variables in terms of observable bids, wherein said unobservable variables are  
expressed in terms of observable bids by inverting said bid model;  
predicting a bidding behavior;  
predicting a first outcome of said market; and  
evaluating said first outcome of said market.

7. The method as recited in Claim 6, wherein said evaluating said first outcome  
further comprises:  
receiving a third user input, wherein said third user input comprises a plurality of  
candidate reserve prices;  
receiving a predicted outcome for each said candidate reserve price;  
calculating descriptive statistics for each said candidate reserve price, wherein said  
descriptive statistics comprise a mean and a variance;  
ranking each said candidate reserve price with respect to said calculated mean and  
generating corresponding rankings for said plurality; and  
outputting said descriptive statistics and said rankings.

8. The method as recited in Claim 7, further comprising:  
selecting a best reserve price, wherein said best reserve price comprises the candidate  
reserve price within said plurality having the highest said ranking; and  
outputting said best reserve price.

10. The system as recited in Claim 14, wherein said selecting characteristics of said  
method further comprises:

receiving a first user input, wherein said first user input comprises information identifying an item to be auctioned;  
accessing a database;  
retrieving from said database historical bids data;  
retrieving from said database auction characteristics data, wherein said auction characteristics comprise information relating to historical auctions of similar items;  
outputting said bids data; and  
outputting said auction characteristics data.

11. The system as recited in Claim 14, wherein said selecting a relevant bidding model of said method further comprises:  
receiving said auction characteristics data;  
accessing a database;  
retrieving from said database a relevant bidding model, wherein said bidding model is selected based on a corresponding relevance of said auction characteristics data; and  
outputting said relevant bidding model.

12. The system as recited in Claim 14, wherein said estimating of said method further comprises:  
receiving said relevant bidding model;  
receiving bids data;  
transforming said bids data to a sample of inverted bids, wherein said bids data are transformed by inverting said bid model;  
estimating an estimated latent structure of said market, wherein said sample of inverted bids receives application of statistical density estimation techniques to obtain said estimated structure; and  
outputting said estimated structure.

13. The system as recited in Claim 14, wherein said bidding model has embedded an unknown structure, and wherein said predicting a bidding behavior of said method further comprises:  
receiving said estimated structure;  
receiving said relevant bidding model;

substituting said estimated structure for said unknown structure; and  
outputting a prediction of bidding behavior.

14. A computer system comprising:  
a bus;  
a memory interconnected with said bus; and  
a processor interconnected with said bus, wherein said processor executes a method  
for determining a reserve price for a market, said method comprising:  
selecting characteristics of said market;  
selecting a relevant bidding model;  
estimating a structure of said market, said estimating comprises expressing  
unobservable variables in terms of observable bids, wherein said unobservable variables are  
expressed in terms of observable bids by inverting said bid model;  
predicting a bidding behavior;  
predicting a first outcome of said market; and  
evaluating said first outcome of said market.

15. The system as recited in Claim 14, wherein said evaluating said first outcome of  
said method further comprises:  
receiving a third user input, wherein said third user input comprises a plurality of  
candidate reserve prices;  
receiving a predicted outcome for each said candidate reserve price;  
calculating descriptive statistics for each said candidate reserve price, wherein said  
descriptive statistics comprise a mean and a variance;  
ranking each said candidate reserve price with respect to said calculated mean and  
generating corresponding rankings for said plurality; and  
outputting said descriptive statistics and said rankings.

16. The system as recited in Claim 15, wherein said evaluating said first outcome of  
said method further comprises:  
selecting a best reserve price, wherein said best reserve price comprises the candidate  
reserve price within said plurality having the highest said ranking; and  
outputting said best reserve price.

17. (Canceled)

18. The computer readable medium as recited in Claim 22, wherein said selecting characteristics of said method further comprises:

receiving a first user input, wherein said first user input comprises information identifying an item to be auctioned;

accessing a database;

retrieving from said database historical bids data;

retrieving from said database auction characteristics data, wherein said auction characteristics comprise information relating to historical auctions of similar items;

outputting said bids data; and

outputting said auction characteristics data.

19. The computer readable medium as recited in Claim 22, wherein said selecting a relevant bidding model of said method further comprises:

receiving said auction characteristics data;

accessing a database;

retrieving from said database a relevant bidding model, wherein said bidding model is selected based on a corresponding relevance of said auction characteristics data; and

outputting said relevant bidding model.

20. The computer readable medium as recited in Claim 22, wherein said estimating of said method further comprises:

receiving said relevant bidding model;

receiving bids data;

transforming said bids data to a sample of inverted bids, wherein said bids data are transformed by inverting said bid model;

estimating an estimated latent structure of said market, wherein said sample of inverted bids receives application of statistical density estimation techniques to obtain said estimated structure; and

outputting said estimated structure.

21. () The computer readable medium as recited in Claim 22, wherein said bidding model has embedded an unknown structure, and wherein said predicting a bidding behavior of said method further comprises:

- receiving said estimated structure;
- receiving said relevant bidding model;
- substituting said estimated structure for said unknown structure; and
- outputting a prediction of bidding behavior.

22. A computer readable medium for causing a computer system to execute a method for determining a reserve price for a market, said method comprising:

- selecting characteristics of said market;
- selecting a relevant bidding model;
- estimating a structure of said market, said estimating comprises expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model;
- predicting a bidding behavior;
- predicting a first outcome of said market; and
- evaluating said first outcome of said market.

23. The computer readable medium as recited in Claim 22, wherein said evaluating said first outcome of said method further comprises:

- receiving a third user input, wherein said third user input comprises a plurality of candidate reserve prices;
- receiving a predicted outcome for each said candidate reserve price;
- calculating descriptive statistics for each said candidate reserve price, wherein said descriptive statistics comprise a mean and a variance;
- ranking each said candidate reserve price with respect to said calculated mean and generating corresponding rankings for said plurality; and
- outputting said descriptive statistics and said rankings.

24. The computer readable medium as recited in Claim 23, wherein said evaluating said first outcome of said method further comprises:

selecting a best reserve price, wherein said best reserve price comprises the candidate reserve price within said plurality having the highest said ranking; and  
outputting said best reserve price.

25. The method as recited in Claim 6, wherein said predicting a first outcome further comprises:

receiving a second user input, wherein said second user input comprises:

an evaluation criterion,  
a candidate reserve price, and  
a constraint;

receiving said estimated structure;

receiving said bidding behavior prediction for said candidate reserve price, wherein said bidding behavior prediction further comprises a prediction under said constraint;

obtaining a value of said evaluation criterion, wherein said value is based on said estimated structure, said bidding behavior prediction, said candidate reserve price, and said constraint, said value comprising said first predicted outcome; and

outputting said value.

26. The system as recited in Claim 14, wherein said predicting a first outcome of said method further comprises:

receiving a second user input, wherein said second user input comprises:

an evaluation criterion,  
a candidate reserve price, and  
a constraint;

receiving said estimated structure;

receiving said bidding behavior prediction for said candidate reserve price, wherein said bidding behavior prediction further comprises a prediction under said constraint;

obtaining a value of said evaluation criterion, wherein said value is based on said estimated structure, said bidding behavior prediction, said candidate reserve price, and said constraint, said value comprising said first predicted outcome; and

outputting said value.

27. The computer readable medium as recited in Claim 22, wherein said predicting a first outcome of said method further comprises:

receiving a second user input, wherein said second user input comprises:

an evaluation criterion,  
a candidate reserve price, and  
a constraint;

receiving said estimated structure;

receiving said bidding behavior prediction for said candidate reserve price, wherein said bidding behavior prediction further comprises a prediction under said constraint;

obtaining a value of said evaluation criterion, wherein said value is based on said estimated structure, said bidding behavior prediction, said candidate reserve price, and said constraint, said value comprising said first predicted outcome; and

outputting said value.



## IX. Evidence Appendix

No evidence is herein appended.

## X. Related Proceedings Appendix

No related proceedings.